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ABSTRACT

Historical documents and interview data are compiled to develop a chronology of critical events used in studying the impact of the Applications Technology Satellite educational demonstration (ATS-6) in Alaska. This method of evaluation was implemented as a parallel approach to that of gathering data in the villages from Native informants and from project participants directly at a debriefing meeting. The chronology approach has both practical and theoretical advantages, in that it is less intrusive than other methods such as surveys or questionnaires and more practical than true participant observation, which requires a major investment of time and resources in a cross-cultural setting. A comparison of the issues generated by the chronology and by the village involvement approaches is made. Discrepancies are identified as a way of judging the usefulness of the chronology method as a sole or combined approach to evaluating a field-based project within practical constraints. (Author/MV)

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THE DEVELOPMENT OF A CHRONOLOGY OF CRITICAL EVENTS

as used in

THE STUDY OF ATS-6 EDUCATIONAL DEMONSTRATION IN ALASKA:

AN ALTERNATIVE METHOD TO FIELD WORK

for

PROGRAM EVALUATION AND THE GENERATION OF POLICY ISSUES

BEST COPY AVAILABLE

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Ethical and Methodological Issues in Field Work
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ABSTRACT

Presentation Summary For Proposed Division G Symposium:
Ethical and Methodological Issues in Field Work

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Title: "The Development of a Chronology of Critical Events: An Alternative Method for Evaluation and the Generation of Policy Issues"

Nature of Presentation: Using as an example the researcher's recent involvement in a study of the impact of the ATS-6 satellite educational demonstration in Alaska, the paper discusses the development of an historical chronology of critical events in the life of the project, through a systematic collection and integration of documents and targeted interview data. This method of evaluation and policy-issue generation was implementated as a parallel approach to that of gathering data in the villages from Native informants and from project participants directly at a debriefing meeting. The chronology approach has both practical and theoretical advantages, in that it is less intrusive than other methods such as surveys or questionnaires, which are well-known not to solicit meaningful responses from village Natives and more practical than true participant observation which requires a major investment of time and resources when working in a cross-cultural setting. A comparison of the issues generated by the chronology and by the village involvement approaches is made. Discrepencies are identified as a way of judging the usefulness of the chronology method as a sole or combined approach to evaluating a field-based project within practical constraints.

Symposium Organizer: Judith P. Ruchkin, Office of Laboratory Experiences, University of Maryland, College Park, Maryland 20742

July, 1975

The development of a chronology of critical events is a process or methodology for the study of social action programs as a complement or alternative to more traditional field work. It is proposed as a means of generating information for program evaluation and the generation of policy issues. I have recently used this process to study a demonstration of satellite-delivered educational television to sites in rural Alaska.

Though the satellite project itself is of considerable interest, this paper is focused on describing how the context of the satellite project led us, the researchers, to develop the chronology method; how the process of developing a chronology of critical events worked, what the chronology process revealed; and the advantages of such a process. Appended is a short summary for those interested in learning more about the characteristics of satellite demonstration (Appendix I).

The Context of the Study

The ATS-6 (Applications Technology Sattellite) Education Demonstration in Alaska was a part of one experiment in a series conducted by NASA. Education (and health) experiments using ATS-6 took place in three sites in the United States and included nine months of actual TV broadcasting. The satellite was then moved to a position to beam programming to India, where it is now temporarily located. At the federal level three agencies were involved in planning and supporting the education demonstrations: HEW, NASA and the Corporation for Public Broadcasting. Within Alaska the project switched agencies several times before it was eventually administered by the Office of Telecommunications in the Office of the Governor.

In June, 1974, the Center for Northern Educational Research of the University of Alaska was asked by the National Institute of Education (NIE) to participate in a study of the Alaska education demonstration as a subcontractor to Practical Concepts Incorporated, a Washington, D.C. based firm. The study was to provide information directly to NIE on the process and outcomes of the demonstration in Alaska with recommendations for federal education telecommunications policy. The study was contracted only two months before fifteen villages were to receive educational television programming via satellite, so obviously much planning and implementation had gone on before the study began. Alaska's earliest involvement in the satellite project can be traced back as far as 1967 while active involvement in planning for the demonstration began about 1972. At best, the study was two years late in getting underway.

In addition to the researchers having been called in late, study funds were limited. The project was deliberately called a "study" or an analysis rather than an evaluation because of these limitations placed upon our work. Also, it was not considered an evaluation because there was never any intent on the part of NIE to use the information gathered to improve the Alaska demonstration or judge its effectiveness.

At the local level, the villages of greatest interest to the study team were those which incorporated four features: they did not have access to television; they tended to be small; and they had predominantly native populations. Additionaly, they had been already "overrun" by various agency and technical people who were involved in implementing the satellite project the previous two years.

The decision to spend a major portion of our resources on the development of the chronology of critical events took all of these factors into account: the complexity of the project, our lateness on the scene, the limitation on resources and the numbers of people going in and out of the villages. In addition, the Alaskan educational demonstration itself had no internal evaluation so that no descriptive base for our work was available.

However, we did not depend upon the chronology process as our sole method of collecting data. Some of the available study resources were used to hire people living in the villages to act as on-the-scene observers. These people could not actually be called participant-observers because they lacked training that the term implies. They were the best local people available who were willing to be alert as to what happened in their village regarding ATS-6 and to send in periodical reports. Observers from four villages were chosen, with the caution that these particular sites were not necessarily representative of all villages of interest.

How The Chronology Process Worked

If I were to characterize the development of a chronology of critical events as a method, I would call it simple in concept; time-consuming in application; non-intrusive, at least in terms of the recipients on the village level; and relatively objective.

We attempted to recreate the history of the project by identifying "critical events" defined as those turning points in the project which caused action or reaction by others. The definition also included those events which help provide an ordering or description of what happened and those events which might indicate a significant issue and/or further need for policy analysis.

We devised a methodology to apply to rather basic tasks of collecting documents and interviewing in order to systematize the process and keep it within manageable bounds. The development of the chronology can best be described by a series of steps, which were conceptualized before we began and which were consistently followed. (A summarized list of the steps of the method detailed below is presented in Appendix II.)

Step 1 was to contact the major players, the key people, the agencies, etc. who were involved in the demonstration project. This allowed us to informally obtain background on the project and its previous progress, while at the same time informing key persons of our study and requesting their cooperation. Often step 2, to collect the readily available documents on the project and related events began at the same time.

The importance of contacting key people as early as possible needs to be emphasized for two reasons. Since their cooperation is essential to the process, it is important that they be fully informed on the reasons for the study and how it will be carried out to prevent misunderstanding. A second reason is that documents tend to disappear in time. This step alerted key people to the fact that we were interested in information they might otherwise have thrown away.

Once we had a basic idea of what the demonstration was all about through these initial conversations and had the first set of documents in hand, these documents were reviewed to obtain a sense of the general history of the project. It must be remembered that we were entering a project that was two years old; we had very little knowledge of what had occurred previously, therefore, step 3 was to review the documents for historical ordering of events.

Using steps 1 through 3, we attempted step 4--to develop a preliminary identification of critical events. This first cut of the chronology was derived from the historical ordering, from information in the documents themselves, and from the general knowledge that the staff had acquired. Given the complexities of the ATS-6 education demonstration, this was perhaps the hardest step, and we had to force ourselves to do it early on, despite the feeling that we did not have an adequate knowledge base.

Step 5 is what we called a discrepancy check. We compared the critical events identified in the first draft chronology to the documents available to see if we had documentation to support each event, and whether it was adequate for referencing the identified decision point. We also looked for obvious holes in the historical ordering and contradictory information.

This led to step 6, to collect additional documents to fill the discrepancies, including actual file searches at appropriate agencies.

Step 7 was to analyze additional documents and revise the chronology. Next, step 8, was to repeat the discrepancy check, using the newly revised chronology against the new enlarged total collection of documents.

At this point we were ready for step 9, to interview the key persons involved to fill gaps that still existed and to have them validate the chronology to date. These gaps came from those events that were not adequately supported by documentation plus those events where the documents tended to conflict. We thought it wise to wait to interview until we had gained enough information to know specific questions to ask. Rather than asking people for information we could get from the documents, we waited until this point to interview, where documents could not provide the answers. Consequently we did not unnecessarily waste the peoples' time or our own. In a few cases, where for convenience we deviated from this practice and interviewed people before the file search and discrepancy check, we regretted it.

Another reason for waiting to interview was to validate the chronolgy that had been develped to date. This was done by going over the draft chronology with the people interviewed, to see if it made sense to them in terms of what they remembered, and to help identify points where further information should be collected or where significant events had been missed. We also thought that by approaching key people and asking their help in validating the chronology, we might more readily ease into the interviews.

You might be interested in knowing that in all cases we found people most cooperative in sharing documents with us, in allowing us to go through their files, and in granting interviews. These interviews were taped and transcribed and became part of the document collection.

Step 10, or the last step was to repeat the collection, analysis, and revision of the chronology, steps 6 through 9, as often as necessary and/or feasible, to insure completeness and validity of the chronology; and to keep the chronology up-to-date as long as the project under study continued or was being researched. What we found, and what would be most likely in other projects, was that it is probably not feasible to recycle as often as one might wish. The practicality of the situation will control how much revision is possible--this practicality being in terms of time, manpower, and funds available. In other words, you repeat the process until you are satisfied or run out of resources.

Appendix III includes sample pages from the chronology as published in the PCI report. Note that each critical event is referenced to supporting documents.

What the Chronology Process Revealed

Let me first make some observations about the use of the method and some of the mechanical problems we encountered. I think what comes first to mind is the problems associated with the documents themselves. It was disturbing how often documents lacked date, author, and/or supporting agency. Even on formal letters and published reports from government offices, we found highly inadequate reference information.

Another observation is that there appears to have been a change over time in recording meetings. In many of the older documents, meetings of commissions or planning bodies had written minutes, usually a two to three page sysnopsis of what actually happened, which we found very useful. In more recent meetings, often tape recorders were used and unless written minutes were summarized from them, they generally do not exist in any format we could locate. Although having a human recorder taking minutes is necessarily less reliable data, written minutes are more useable as feedback, and certainly more easily stored and available to others.

We also made some interesting observations on how people file. Many people seem to file their incoming mail by subject, but their outgoing mail by date. What this meant to us was that we tended to find letters where they arrived rather than where they originated. It also raises an interesting question concerning management style.

Besides providing a basic description of what happened, the chronology also is a way of generating issues. Appendix IV includes a list of issues identified last June through the chronology process. Let me describe just a few of those. I think the major problems that the chronology pointed out were management ones. This perhaps is because of the large scale of the project and also because of the number of "players" involved. At the federal level alone, there were three different agencies involved in getting this project underway, with no overall coordinating authority. This fact alone would assuredly generate confusion at that level, which could only intensify as it filtered down to state and local levels. Management problems can also be seen at two other levels--communications between federal and state agencies, and within the state itself. At various times during the project, both federal and state planners complained of a lack of a single spokesman with

which to communicate. In other words, neither side felt they clearly knew whom to contact and assignment of responsibility seemed hazy on both sides. Within the state, the separation of program development and production into two subcontracts caused another type of management difficulty.

Another issue was the problem of technological versus educational development and what appeared to be a fairly consistent time lag between the two. Technological development usually precedes planning for educational use, and this case was no exception. It had been determined that ATS-6 would be used in Alaska and equipment was already being installed before there was any agreement concerning educational uses. From this example, it appears that the educational program uses and users try to catch up to the technologists, which mitigates against the likehood of meaningful input from users in the design and placement of hardware.

Federal funding and the difficulty of operating large scale social projects with such funds was another issue which surfaced often in the chronology. Lacking throughout the development of the ATS-6 educational demonstration in Alaska was trust and commitment between federal and state levels. The uncertainty of whether the educational demonstration would be funded and the continued uncertainty about the level of funding, which existed almost until the demonstration was over, created havoc in planning and operations.

An additional problem related to federal funding was federal intervention through monitoring visits, raising the policy question of whether advising and monitoring can be done in one role. The monitoring process used in this project was a site visit team consisting of people from around the country chosen for their various types of expertise but lacking experience in Alaska. The visits and resultant reports created massive alienation in Alaska which tended to overshadow any usefulness of the suggestions made.

Lastly, and also related to the previously mentioned funding discussion, is something that I call a "chicken-egg" planning phenomena. This is a problem which seems to beset most projects funded through an outside source. It consists of never knowing how much planning to do without funding, but not being able to obtain funding until such planning is accomplished. In this project, the federal government criticized the state for not having done more advanced planning for the education demonstration; the state retorted that without resources required to do such planning, it couldn't go ahead. This "tug-of-war" similarly affected such decisions as when to involve the villages. State planners felt potential demonstration villages should not be notified and involved until they were fairly sure the project would be funded, but the federal spokesman insisted on evidence of village involvement before they would fund the project.

To summarize this section on the use of the chronology process, you will note (upon reviewing sample pages from the chronology) that it is very detailed and provides a depth of information which probably would not interest the casual reader of the report. The intended audience of the chronology is primarily those who are or have been involved in some aspect of the demonstration. Its purpose is primarily as a reference: to provide an overview at any one point in time, which no principle in the process could have known at

the time a critical event occurred; to allow points of interest to be followed over time and in relationship to other happenings; to key critical events to related documents for those who desire additional sources of information; and to serve the project staff as a basis for other parts of the report, including the analysis of issues and recommendations. The document collection has already served the research interests of others as well as ourselves, as it is the only centralized source of demonstration and related information.

Comparison of Chronology and Field Generated Information

It is difficult to compare information generated by the chronology process to that gathered in the field as originally planned because the study was curtailed prematurely, its fate still in question. Generally other members of the study team, depending primarily on information from the villagers and teachers involved in the demonstration, focused their analysis on the impact of the televised educational programs, how it affected and was affected by village life styles, and people's perception of the future for television in the school and the village--whether it was desired, its relation to cultural change, and questions of control. Since the quantity and quality of field-generated data was limited, much of this analysis was speculative in nature. The only apparent juncture of the two sources of information was in the PCI summary report, which included recommendations for future NIE projects and Alaska telecommunication planning based largely on the field generated analysis and supported by selective use of the chronology entries.

Advantages of the Chronology Process

Upon reflecting on the experience of developing a chronology of critical events as one method of analyzing a project in progress, I have identified a number of advantages for this approach.

First, as I mentioned in my opening, I see the chronology in most cases as complementary, and in a more limited sense as an alternative, to traditional field methods. The use of more than one method or better, an integration of methods, should lead to greater quality research or evaluation than use of any one method alone. Most social scientists would probably subscribe to that statement but relatively few actually apply it. Building a chronology, I believe, is especially useful in complex projects. It becomes a descriptive account serving as a base for others to use in studying the project as well as being an end in itself. Considered as a complementary source of information, the chronology might well provide the framework in which to better understand information collected in the field and through other means.

Under less than ideal conditions, which is the case for most doing evaluative-type research, the chronology may be an acceptable alternative to field study. A recurring situation for evaluators is being asked to study a project after it has started. I believe our study of the satellite demonstration illustrates how the chronology process can be useful in this situation. The question of economics also is a deciding factor in whether field methods should be used. To do proper field study requires "live-out" professionals

or trained, available resident help over long periods of time. When entering into a project study late and/or with limited resources, this is usually not possible and if field work is done within such constraints, it probably will not produce quality information. Since doing field work under such conditions may be worse than not doing any at all, chronology development might become an acceptable substitute in such situations.

The chronology process is a non-intrusive or less-intrusive form of data collection, at least when one is talking about the service recipient level. Though our method required the cooperation of those in managerial/delivery types of positions, the process did not further intrude on those in villages. This non-intrusiveness should be especially helpful in cross-cultural situations, such as we have in Alaska Native villages, where interviews questionnaires, or observations are often of questionable usefulness, even if conducted by people of the same culture. Further, trained Native assistance is usually not available on-site.

If the problem under study relates to large-scale social change programs, as with this example, and given that the implementation of such projects usually is less than 100% efficient, the chronology provides evaluation data at the implementation stage which is essential to accurately describe and judge process and product. In this sense the chronology can be seen as formative rather than summative activity, which could assist those evaluating or administrating a program to improve it while in process. In large programs, or in any program, there is far more to study than the end products: the chronology process stresses the importance of describing the planning stages and the delivery system as well as its impact and effectiveness.

Also related to the large scale of the events under study, the chronology allowed us to be "pseudo" participant-observers of the total project process where it was impossible for the research staff to be everywhere at every project stage. There were 17 receiver sites to cover plus a multitude of agencies over a period of at least four to five years. Even if the study had begun earlier and field methods had been used, it would be unlikely that researchers could have covered all of the different sites over the time span involved. The chronology gave us information to fill in gaps and to trace events back over time which field work would not have been able to do.

Another advantage in a multi-site project, where indepth observation is not feasible at each site, is that the chronology allows for at least minimal data collection at a more general level pertinent to all sites while specific site-unique data is collected through field methods. For instance, in choosing a limited number of villages where data would be collected in the field for this study, there was no way of knowing if what would happen in these villages would be similar to the others. The chronology enabled us to at least collect general information from all areas with which the field specific information could be compared to judge just how unique those particular villages were. In this sense, the chronology could be considered a form of control over sampling or site bias, which is a problem when a limited number of sites can be studied. It could also be considered as a safeguard against the risk of

partial or total failure of field-centered activities, which are especially high when efforts are severely limited to begin with.

An additional feature of the chronology process is that it does not rely solely on interviews to remember past events, but provides a documented structure in which selective interviewing can be used where documents are absent or conflict. It allows for a judicious use of interviewing time, and suggests that interviewing after the documents have been analyzed is a more effective means of using interview input. This experience suggests that in studies with longer time spans, chronology development also might precede field work and could be used to identify a logical framework in which to direct limited field resources.

The chronology process as used in ATS-6 study can be thought of as issue-generating rather than problem-specific as it covered the widest possible sources of input in gathering documents. In a study which has a purpose, the generating of issue questions, the chronology process, at least for us, appeared to be useful. Many of the implementation and process issues which arose during the study might not have been identified if one were operating solely at a field level.

The chronology process, through collecting and ordering project and related information, also can be used by others doing issue or problem-intensive studies, either during the project or after its completion. The process itself suggests various topics for further problem studies. Toward these ends, it preserves and centralizes documentation which may possess an importance not recognized at the time of issue or by the issuer. It was surprising to us how quickly important reports and other documents of long-term research use seemed to disappear if efforts were not made to collect and save them.

Summarizing the advantages of the chronology process, I believe they are numerous, especially in large scale programs where ideal conditions for field work are often absent, where resources are generally limited, and where descriptive information concerning the total project, implementation as well as process and product, is often overlooked as a necessary research input. In the best of all possible worlds, the thorough development of a chronology of critical events would be accompanied by intensive long-term quality field work. Those of us frequently working in federally funded, social-action project studies are well aware that many of the conditions for quality research in which we prefer to operate rarely exist. Our choice is one of denying to do any evaluative research at all, thus providing no information for decision-makers or for later general usage, or using the best possible means we can devise. The chronology approach was developed as an answer to this latter option.

APPENDIXES

I The ATS-6 Health Demonstration in Alaska

II Method for Developing a Chronology of Critical Events Events

III Sample Pages from A Chronology of ESCD/Alaska Critical Events

IV Potential Problems/Topics to be Developed from the Chronology

ALASKA

ATS-6

HEALTH/EDUCATION TELECOMMUNICATIONS EXPERIMENT

The Office of Telecommunications/ Office of the Governor views the Alaska ATS-6 Health/Education Telecommunications Experiment, for which it has management responsibility, as an experiment in programming as well as technology. All efforts have been made to develop video material for satellite transmission that is relevant to Alaskan rural areas and both informative and entertaining to the diverse Native cultures throughout the state.

The ATS-6 is the latest of NASA's Application Technology Satellites. Alaska's involvement with this program of experimental telecommunications satellites began with educational and medical projects by the Indian Health Service and the State-Operated Schools System. These experiments, utilizing the voice-only capability of ATS-1, are still in progress.

ATS-6, which allows the transmission of high quality color video, as well as superior audio, was launched in the spring of 1974. Satellite transmission began in October of 1974, with each program series designed for 32 weekly broadcasts. In mid-May, 1975, NASA will move the satellite to India, and the Alaska portion of the ATS-6 experiment will end.

The ATS-6 satellite's high power transponder, a 30-foot diameter dish antenna which concentrates the signal and increases its power, has the ability to "point" highly concentrated powerful beams at the 17 small earth stations in the satellite's Alaska "footprint."

With this system, reception of color video and up to four channels (simultaneously) of high quality audio is possible with a 10-foot diameter fiberglass antenna and cigar-box sized receiver. The system operates a "party line" with one site transmitting and all sites receiving. Equipment for a receive-only site costs $2,000.

A total of five hours a week has been scheduled by NASA for Alaska broadcast use. The Office of Telecommunications supervises all technical interface for actual satellite broadcast, as well as maintenance of all receiver and transmitter equipment. Utilization aides have been hired in all receiving villages to monitor equipment.

PROGRAM CONTENT

The program content of the project can be divided into two categories: Viewer-Defined Programming (Public Broadcasting) and Instructional Programming. There is actually a third category, Experiments of Opportunity, but these programs were not developed as part of the Health/Education Experiment.

VIEWER-DEFINED PROGRAMMING

Viewer-Defined Programming consists primarily of Alaska Native Magazine, a sixty-minute public affairs program devoted to news and events that affect Alaska's Natives. In-studio interviews are combined with on-location film footage to produce a combination documentary/roundtable discussion/ interview format. This program is broadcast live each week, with translations in Yupik and Koyukon on simultaneous audio channels.

During the live broadcasts of Alaska Native Magazine, direct interaction from rural receiving sites is possible through the two-way audio capabilities of the ATS-1 satellite. Village viewers are able to call in questions that can be immediately answered by the program host or any guests present. Viewers are also invited to comment on their reaction to the programs, and to suggest future topics, hence the title Viewer-Defined Programming.

Suggestions from viewers are considered by a committee drawn from the leadership of the Alaska Federation of Natives and the Native corporations within the satellite "footprint." This committee then makes assignments to the program producer, KUAC-TV in Fairbanks.

Also within the Public Broadcasting component are occasional special broadcasts of such events as the resignation of former President Nixon, and Governor Hammond's Inauguration.

INSTRUCTIONAL PROGRAMMING

Experiments in this program area are being conducted to determine the feasibility of developing, designing, scripting and producing instructional programs in Alaska by Alaskans. The plan was to design the materials primarily for use by the rural schools and then determine whether they would be suitable for urban use as well.

In an attempt to insure that the programs would be appropriate for rural school children, local input played an integral part in the program development process. Each receiving site was requested to select a representative of their community to serve on a Consumer Committee for each program series. These committees met with program designers to make basic decisions regarding the program content. These groups have been of tremendous assistance in assuring that the programs are appropriate to each region. With their input, every effort has been made to represent Native cultures with authenticity, making settings, content and characters relevant and understandable to rural Alaskan children.

The Consumer Committee concept has worked very well. The members were very dedicated and hard-working. They were task oriented and accomplished their goals at each meeting. This experience is a recommendation for more involvement in educational decisions at the local or consumer level.

Based on an Alaska Department of Education learning needs assessment, two primary areas of Instructional Programming were selected and funded for school age children: Basic Oral Language Development and Health Education.

Health Education

At the Consumer Committee's direction the Health Education series, Right On!, is set in a typical village health aide's office, with a Native woman health aide interacting with two animal puppets, a moose and a beaver. Each program centers on one specific health problem relevant to 8-10 year old rural Alaskan children. A germ puppet and two muppets are used in separate sequences to break up the moose and beaver segments and to reinforce the concepts being taught.

The design agency has been able to create scripts around these Consumer Committee specifications and the producers, KUAC-TV in Fairbanks, have done an excellent job of implementing and producing these programs.

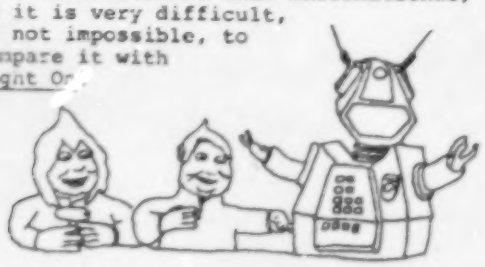
The reports from the sites, both verbal and written, have been an enthusiastic endorsement of the programs. The residents of the rural areas are pleased that the setting is familiar to them and that a Native person is the main, information-dispensing character. One rural teacher reports that the children in her classroom "have become much more aware of germs, talk of germs in play, and remind each other to wash hands." The more urban areas such as Petersburg and Fairbanks have been receiving the programs in their homes as well as using them in the schools. No complaints have been received regarding the program's being inappropriate for the urban areas.

Basic Oral Language Development

The Language Development program, Amy and the Astros, is set inside a spaceship containing two astro children puppets and a robot puppet. An English-speaking Alaskan woman (caucasian) discovers the spaceship, enters it, becomes acquainted with the puppets and continues to return to teach them the English language. The Consumer Committee specifically chose this setting for the series to avoid reference to any particular Alaskan culture that might seem to exclude others. This format also involves the students with helping to teach the outerspace children English while they themselves are being taught.

This program series is aimed at 5-7-year old Alaskan Native children whose first language is not English, and/or whose English is limited to the

rudimentary needs of the home and classroom. Amy and the Astros is not as interesting to adults as the health programs, but the children enjoy watching them, repeat the phrases, and answer the questions. This series is more instructional than informational, so it is very difficult, if not impossible, to compare it with Right On.



Program design for these two series also included development of teacher manuals, detailing classroom activities to reinforce program lessons. Reports indicate that the manuals are not used consistently by rural teachers, perhaps due to individual teaching preferences and lack of necessary preparation time by the busy village teachers.

Another facet of the Instructional Programming experiment is to determine the feasibility of utilizing existing programs rented from various companies in the "lower 48." The health area was selected for this experiment, and thirty-two rented health programs are being shown alternately with the ones produced in Alaska.

Observations to this time indicate that most of the settings of the rented programs are not appropriate for rural Alaska. Some are beneficial even though they are not as relevant to Alaska as we would like. However, the Alaskan produced materials have been more enthusiastically received.

Interaction

There is a 10-15 minute period after each of the health and language programs for interaction. An in-studio teacher provides follow-up activities to stimulate questions and interaction from the audience in the receiving sites. The village teachers and students can then call into the studio via ATS-1 to respond and ask questions. This portion of the programming is broadcast live from the Juneau studio facility.

The interaction portion of the experiment has presented some challenging problems. The age groups that are watching the programs are not as interested in asking questions nor in hearing others ask questions nor in hearing the answers to these questions as had been anticipated. After the videotaped programs are finished, the 5-10 year old viewing audience is more interested in reacting with each other than in reacting to the television screen for another 15 minutes.

Teacher In-Service Training

A third series developed in the Instructional Programming experiment is the Teacher In-Service Training program, Tell and Show. The series was originally designed by the Alaska Department of Education to consist of four ½-hour programs instructing rural teachers in the use of the satellite programming. In scheduling, the series was allotted ½-hour each week and funding for such an expanded program became a problem.

A lecture series originally broadcast was discontinued because of overwhelming disinterest by the rural teachers, and the remainder of the programs have been studio interviews, panel discussions and slide presentations on topics requested by the teachers. This program series also includes interaction time, but few village teachers respond consistently. This can be attributed either to the time the program is broadcast, lack of free time for teachers, or lack of any motivation within the series itself to encourage teachers to watch. Few teachers have responded to written requests for evaluation of the series.

EXPERIMENTS OF OPPORTUNITY

When additional satellite time became available, the Office of Telecommunications sought programming input from all state agencies. Three agencies (Department of Community and Regional Affairs, Department of Fish and Game, and the Alaska State Library) now provide program material and funding for weekly programs. The Office of Telecommunication's contribution in this programming development has been technical personnel and Juneau studio facilities established for the HET Experiment, time and talent which is paid for by each participating state agency.

AFTER ATS-6...

The ATS-6 Health/Education Telecommunications Experiment is a first for Alaska. With this experiment, the state will gain important information on how satellite technology can most effectively be used to uniquely suit Alaska's communications problems. The primary interest is not in precisely measuring the instructional efficiency of various programming and dissemination techniques, but in exploring effective ways of utilizing the technological resource at hand. The educational process is so complex that a short-term demonstration cannot provide all the answers. But it will help to determine the usefulness and practicality of various techniques in developing appropriate materials for satellite distribution in Alaska.

This experiment has precedent-setting implications because it anticipates applications which may become commonplace within the following decade with the next generation of communications satellites. What is learned here, and what develops from that knowledge, will influence Alaska's future development of a complete satellite communications system.

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METHOD FOR DEVELOPING A CHRONOLOGY OF CRITICAL EVENTS

(1) Contact key persons, agencies, etc.

- inform them of study
- request cooperation

(2) Collect readily available documents on project under study and related events

(3) Review documents for historical ordering of events

(4) Develop preliminary identification of critical events (first cut at chronology) from knowledge gained in Steps (1) - (3)

(5) Perform a discrepancy check between the critical events identified (4) and documents available to support them (2)

(6) Collect additional documents to fill discrepancies

(7) Analyze documents and revise chronology

(8) Perform discrepancy check

(9) Interview key persons to fill gaps (those events not adequately supported by documentation or those events where documents conflict), and validate chronology to date

(10) Repeat collection, analysis, and revision of chronology (Steps 6 - 9) as often as necessary and feasible to:

- insure completeness and validity of chronology, and
- keep chronology up-to-date as long as project continues and/or is under study

APPENDIX III

SAMPLE PAGES

FROM

A CHRONOLOGY OF ESCD/ALASKA CRITICAL EVENTS

in

IMPLICATIONS OF THE ALASKA

EDUCATION SATELLITE COMMUNICATIONS

DEMONSTRATION

FOR TELECOMMUNICATIONS AND

EDUCATION POLICYMAKERS

Practical Concepts Incorporated

November 1975

EXPLANATION OF THE FORMAT OF

CRITICAL EVENTS AND RELATED DOCUMENT ENTRIES

Critical events are in order by date and numbered from the earliest critical event [as #C1] to the most recent. This number appears in the upper left corner.

For each critical event, there is at least one related document entry. They are listed to correspond to the event and allow the reader to easily check which documents relate to the event of interest. For example, the document entry related to critical event "C1" begins the documentation list and is labeled [C1]. For some critical events, more than one document pertains to that specific event. The number appearing in the upper right corner of each document listing refers to the document's location in the CNER files. Abbreviations used in the descriptions of critical events and related documents are explained in the list of abbreviations

(p.111-14)

1967

October 2, 1967 [C1]

Memorandum of Understanding between NASA and Indian National Committee for Space Research. (See April 1, 1968)

1968

March 15, 1968 [C2]

U.S. Sen. Bartlett (AK) letter to Webb (NASA) requesting a copy of NASA agreement with Indian National Committee for Space Research for an experimental educational TV system in India. "If the report of NASA's agreement with India is correct, I am greatly disturbed that NASA is prepared to solve the communication problems of a foreign nation without first at least considering what it can do to solve various serious communication problems of one of our states."

April 1, 1968 [C3]

Webb (NASA) reply to U.S. Sen. Bartlett (AK) says NASA has not agreed to fund a system for India; the agreement is for a "joint study of the feasibility and desireability of a project which would be conducted and financed by the Government of India:.." in which ATS-F (launched for other purposes) would be utilized for an experimental instructional TV project in India. Encloses copy of Oct. 2, 1967, Memorandum of Understanding. Would welcome Bartlett's views on how to determine feasibility of using an ATS satellite for an educational experiment in Alaska. (Bartlett reply of April 30 suggests tests of direct broadcast from a satellite to community facilities or homes. Provides list of contacts including Hiebert (Satellite Task Force), Wood (UA), Hartman (DOE), Murphy (Alaska Public Broadcasting Association), and Northrip (KUAC).)

June 12, 1968 [C4]

Alaska Satellite Communications Task Force (2nd meeting - College, AK). Chairman - Augie Hiebert. The group agrees that a main objective would be to determine the total requirements for all communications services now in existence within the state and all projected communications services in the state.

1969

July 9, 1969 [C5]

"A Summary of the Alaska Pilot Program for Educational and Public Communications by Satellite" by U.S. Senator Gravel (AK) suggests 6-9 month experimental project (9/69 - 7/70) using ATS-1 "to enable Alaskan Authorities to plan an effective management organization for eventual permanent satellite communications throughout the State." (Suggests CPB interest and support and the availability of ETV programs for use in the experiment.)

July 16, 1969 [C6]

Anchorage meeting of representatives from Alaska educational agencies with Poirer (Aide to Sen. Gravel) explaining ATS-1 proposal and seeking agency involvement. Pittman (KUAC) memo of July 17 says "apparently Gravel feels that the Dept. of Education should be most closely connected to control and operation of the proposed pilot program. Gravel was either unaware of both the Governor's Task Force on Satellite Communications and the Educational Broadcasting Commission or he did not feel that they should necessarily be involved with the pilot program."

August 8, 1969 [C7]

C. Hartman (1969) memo to Members, State Board of Education, entitled "Progress Report, ETV-ITV." Notes following Congressional action providing a Public Broadcasting Act, Gov. Miller (2/69) appointed a Public Broadcast Authority for the State.* It has applied to Rockefeller Foundation for a grant to "employ a knowledgeable program and technical consultant." Northrip (UA) has been contacted to take on this job part-time. Also mentions Gov. Miller designated Buck (Director of Communications, Department of Public Works) to represent the Governor's Office on ATS-1 (notes Miller's intent was Buck relating to hardware and technology and Hartman on software possibilities.)

August 14, 1969 [C8]

Joint meeting of Satellite Task Force & Public Broadcasting Commission in Anchorage discusses ATS-1. Group consensus that Buck (Div. of Comm.) and Northrip (UA) should have the Governor send NASA a letter of intent stating that the idea has possibilities and is being pursued through the Broadcasting Commission; plan to include many potential users. (Gov. Miller letter of intent to NASA dated Aug. 19.)

* (PBA later established by State Legislature as AEBC)

DOCUMENTARY BASIS FOR THE CHRONOLOGY

[C1, C2, C3] 16.1
Letter to Frank Darnell from D. M. Murphy, Alaska Planning & Evaluation Center, U of A, January 27, 1969. Attachments: Senator Bartlett/Webb (NASA) correspondence - letters dated 5/1/68, 3/15/68, 4/30/68.

[C4] 109.5
Minutes of the second meeting of the Alaska Satellite Communications Task Force, Jan Vandemark, Secretary to the Manager, KUAC, June 12, 1968.

[C5, C6] 100.2
Memo to Lee Salisbury from Sue Pittman, KUAC, re: Summary of meeting to discuss Gravel's ATS-1 proposal, July 17, 1969. Attachments: Gravel plan.

[C7] 104.
Memo to Members, State Board of Education from Cliff R. Hartman, Department of Education, re: Progress Report, ETV-ITV, August 8, 1969.

[C8] 100.3
Memo to Charles Northrip from Sue Pittman, University of Alaska, re: Joint meeting of Satellite Task Force and Public Broadcasting Commission, Anchorage, August 14, 1969 [re: ATS-1, Comsat-Intelsat], August 15, 1969.

[C9] 116.
Statement to the Rockefeller Foundation on the Alaska Educational Broadcasting Commission, re: Feb. 1970 AEBC proposal to Rockefeller Foundation.

[C9] 116
Letter to William R. Wood from Cliff Hartman, Department of Education, re: possible continuation of Northrip under Rockefeller Grant, February 27, 1970.

[C10] 103
Alaska Conference on Satellite Communications - August 28-29, 1969, Anchorage. Author - Bob Arnold, Federal Field Committee.

[C11] 116
Statement to the Rockefeller Foundation on the Alaska Educational Broadcasting Commission, re: February 1970 AEBC proposal to Rockefeller Foundation. (Contains brief history)

[C12] 7.2
NASA News - Press Kit, Howard Allaway and Donald E. Witten (authors), NASA, May 21,1974.

[C13] 103
Alaska Conference on Satellite Communications, August 28-29, 1969, Anchorage, Arnold (author), Federal Field Committee.

[C14] 100.3
Letter to Keith Miller, Governor, from Joseph Claryk, Communications Satellite Corporation, October 6, 1969, re: Comsat's role in Alaska ATS-1 proposal.

[C15] 100.2
A Proposal for Satellite Communications Demonstration for Alaska [time line for implementation shows Oct. 1969 and Nov. 1970 and continuing].

[C15] 116
Statement to the Rockefeller Foundation on the Alaska Educational Broadcasting Commission, re: Feb. 1970 AEBC proposal to Rockefeller Foundation. (Contains brief history)

[C16] 117
Letter to Richard Marsten from Charles Northrip, AEBC, re: inquiring about VHF audio on ATS-G, November 17, 1969. Attachment: Marsten letter to Northrip, 12/2/69.

[C17] 117
Letter to Charles Northrip from Frank Norwood, Joint Council on Educational Telecommunications, November 21, 1969, re: ideas for ATS-G, response to NASA offer of ATS-1 and ATS-3, CPB satellite task force. Attachment: Draft of Macy's response to ATS-G.

[C18] 116
Letter to Cliff Hartman from William R. Wood, Univ. of Alaska, February 27, 1970, re: continuation of Northrip February 22, 1970 - June 30 under Rockefeller grant.

[C18] 116
Letter to President Wood from J. Kellum Smith, Jr., Rockefeller Foundation, December 24, 1969, re: notification of $24,645 grant.

[C19] 109.5
Memo to Robert Ward from Telecommunications Advisory Group (initiated by Buck and Northrip), January 29, 1970, re: T.A.G. comment on 1/19/70 address by Sen. Gravel before the Alaska State Legislature.

Potential Problems/Topics to be Developed from the Chronology

1. The separation of program design and production between two contractors in different cities over different contract dates was viewed as a problem by both. Designers needed more knowledge of production requirements and production staff needed greater understanding of specific instructional objectives.

2. Management problems were evident at several levels in the demonstration, each further compounding those which followed. At the federal level, direction was often unclear and changeable. Two main agencies were involved with no permanent central coordination. Relations between the state and federal level were complicated by multiple sources of funds and directions, an unplanned change of agency monitoring the project, uncertainty of funding throughout, lack of planning time and funds, and a separate equipment contract. Within the state, management areas of concern include lack of field tests, site selection, and change of offices, all related in some degree to management problems at higher levels.

3. The site visit and subsequent reports, as mechanisms of federal management, became controversial in the Alaska education project. Composition of the NIE site team, timing of the visit and delaying of funding are all areas criticized by involved Alaskans.

4. The goals and objectives of the ATS-6 educational experiment, or demonstration as it later came to be called seem unclear throughout various phases and levels of the project. Its value in adding knowledge to communications technology and/or educational programming was never clearly defined. Hence, the role of various agencies (i.e. Alaska Educational Broadcasting Commission, Governor's Office of Telecommunications, Department of Education) was also unclear and could sometimes be seen as conflicting.

5. Other "experimental" studies of the use of television in rural Alaska may provide additional input to questions raised during the ATS-6 demonstration. Also, because of their contextual differences, such as being able to use more than one TV channel at a time, such studies may add information which could not be studied within the limits of ATS-6. The documentation process has located two such studies.

6. The ATS-6 Health Demonstration in Alaska was managed by another agency and the two seemed to have been carried out totally independent of each other. At the village level, the education demonstration served more villages but there was an overlap in some. An analysis of similarities and differences between the two Alaska demonstrations might offer up useful insights, as the health demonstration is the closest comparable program effort to the education demonstration available for study.

7. Alaska's ATS-1 Education experiment, although limited to two-way audio, was clearly meant to influence the development of ATS-F plans. In addition to the planning and operating experience to ATS-1 personnel, there were published evaluations of ATS-1 Education activities. The actual use of ATS-1 experience in the ATS-6 project is questionable. One particular facet of ATS-1 experience to be examined is the use of an agency-based advisory panel and its expected continuation into ATS-6 planning and operation.

8. Interaction was meant as the innovative way in which the satellite would make local involvement possible. Its problems included:

   - dependence on audio only for interaction using ATS-1.
   - intended audiences of an age level not intelligible on a poor audio channel.
   - inadequate design of ATS-1/ATS-6 hook-up.
   - lack of provision for sites to hear different ATS-6 audio channels (i.e. languages) simultaneously.
   - origination of interaction separate from main instructional program.
   - possible social and cultural factors which inhibited responses.

9. To what extent operating its own satellite TV demonstration has affected telecommunication planning in Alaska remains unclear. The importance attributed to ATS-6 by those in charge of planning can be studied, as one source, through the press. For example, during the demonstration period, press coverage of satellites in Alaska has focused almost exclusively on the provision of telephone service to bush Alaska.

10. Public attention, its support or rejection of ATS-6 efforts and the potential for public involvement in the future role of GOT seem to have been minimal. The lack of general public knowledge of ATS-6 appears related to several factors, including a hesitancy on the part of administrators to raise expectations without a certainty of project implementation.

11. The ATS-6 consumer committees as an effort to provide significant local input to planning and operations seem to be regarded with mixed feelings. On the one hand the three committees appear to have contributed in differing degrees to the decision making process once the project got underway. On the other hand their membership (institutional vs lay vs professional), their intended and/or actual role, and their real ability to change the direction of the project are being questioned.

12. The formation of the Public Service Satellite Consortium of potential users of ATS-6 type service is seen as a possible avenue for speeding up the development of operational satellite TV service to small earth stations. Given Alaska's unique dependence on a satellite delivery system for a variety of communications purposes, Alaska's involvement in PSSC deserves further study.

13. Other ATS-6 studies which include Alaska, such as the one being done for AID, should serve as important sources of additional information and perspective.

14. The impact of persons in the development of ATS-F and other telecommunication matters is a topic for consideration. At this time, it appears that the career histories of select individuals may shed more light on ATS-F planning than the descriptions of the agencies involved. This may, in turn, be related to a lack of institutional readiness for such a project in Alaska and then has ramifications for the way in which emerging agencies and plans are developing.

15. Arrangements for ownership and removal of the equipment seem not to have been agreed upon prior to or during the demonstration. The resolution of this question for Alaska may be indicative of other topics which remain to be explored after the demonstration has ended.

There are a number of possible topics identified in the documentation process which are ATS-6 project-wide (the three education sites) rather than wholly unique to Alaska. Hopefully, these will be addressed by EPRC. These might include:

(1) A comparison of ATS-F development across sites in relationship to the readiness of institutions already established at that site to handle such a project.

(2) The question of whether ATS-F was planned as an experiment or demonstration and how the lack of clarity on this point may have affected the various projects.

(3) Equipment -- suitability, delivery, maintenance and ownership across all sites. Included here would be the common "uplink" problem.

(4) The P.S.S.C. as it relates to the ATS-6 players.

(5) Coordination, or lack thereof, between NASA and HEW, and how that affected communication and decision-making as related to the site level.

(6) The difficulty of operating a project from the site level point of view with piece-meal, multi-source funding.

KH/SP
6/16/75